

Claims

- [c1] A chemical mechanical polishing (CMP) pad, comprising:
a unitary body having a first side and a second side;
said first side having a plurality of holes formed therein;
and
said second side having a plurality of grooves formed therein.
- [c2] The CMP pad of claim 1, wherein each of said plurality of holes in said first side is aligned with one of said plurality of grooves in said second side.
- [c3] The CMP pad of claim 2, wherein the depth of each of said plurality of holes extends to said one of said plurality of grooves.
- [c4] The CMP pad of claim 3, wherein each of said holes are sized in a manner so as not to exceed the width of a corresponding groove aligned therewith.
- [c5] The CMP pad of claim 2, wherein said plurality of holes are arranged in a concentric circular configuration.
- [c6] The CMP pad of claim 5, wherein said plurality of grooves are arranged into a concentric circular configu-

ration.

- [c7] The CMP pad of claim 2, wherein said plurality of holes are arranged in a grid configuration.
- [c8] The CMP pad of claim 7, wherein said plurality of holes are arranged in a grid configuration.
- [c9] A chemical mechanical polishing (CMP) pad assembly, comprising:
 - a sub pad attached to the upper surface of a support turntable;
 - a CMP pad having unitary body with a first side and a second side, wherein said first side is in contact with said sub pad;
 - said first side having a plurality of holes formed therein;
 - and
 - said second side having a plurality of grooves formed therein.
- [c10] The CMP pad assembly of claim 9, wherein each of said plurality of holes in said first side is aligned with one of said plurality of grooves in said second side.
- [c11] The CMP pad assembly of claim 10, wherein the depth of each of said plurality of holes extends to said one of said plurality of grooves.

- [c12] The CMP pad assembly of claim 11, wherein each of said holes are sized in a manner so as not to exceed the width of a corresponding groove aligned therewith.
- [c13] The CMP pad assembly of claim 10, wherein said plurality of holes are arranged in a concentric circular configuration.
- [c14] The CMP pad assembly of claim 13, wherein said plurality of grooves are arranged into a concentric circular configuration.
- [c15] The CMP pad assembly of claim 10, wherein said plurality of holes are arranged in a grid configuration.
- [c16] The CMP pad assembly of claim 15, wherein said plurality of holes are arranged in a grid configuration.
- [c17] A chemical mechanical polishing (CMP) assembly, comprising:
a rotatable pressure block for securing a semiconductor wafer therein;
a support turntable having a sub pad attached to the upper surface thereof;
a CMP pad having unitary body with a first side and a second side, wherein said first side is in contact with said sub pad and said second side is disposed so as to come into contact with said semiconductor wafer during

a polishing operation; and
at least one supply line for dispensing CMP fluid for said polishing operation;
wherein said first side of said CMP pad has a plurality of holes formed therein, and said second side of said CMP pad has a plurality of grooves formed therein.

[c18] The CMP assembly of claim 17, wherein each of said plurality of holes in said first side is aligned with one of said plurality of grooves in said second side.

[c19] The CMP assembly of claim 18, wherein the depth of each of said plurality of holes extends to said one of said plurality of grooves.

[c20] The CMP assembly of claim 19, wherein each of said holes are sized in a manner so as not to exceed the width of a corresponding groove aligned therewith.

[c21] The CMP assembly of claim 18, wherein said plurality of holes are arranged in a concentric circular configuration.

[c22] The CMP assembly of claim 21, wherein said plurality of grooves are arranged into a concentric circular configuration.

[c23] The CMP assembly of claim 18, wherein said plurality of holes are arranged in a grid configuration.

[c24] The CMP assembly of claim 23, wherein said plurality of holes are arranged in a grid configuration.